

Abstract

~~The present invention relates to electrical~~ Electrical separators for batteries, especially lithium batteries, having a shutdown mechanism, ~~and also a A~~ process for their production. An electrical separator is ~~a separator which is~~ used in batteries and other systems in which electrodes have to be separated from each other while maintaining ion conductivity ~~for example~~. Safety is very important in lithium batteries, since in contrast to other types of battery (Pb, NiCd, NiMeH) the solvent for the electrolyte is not water but a combustible solvent, ~~for example organic carbonates~~. ~~This is why it is absolutely necessary for a A~~ separator for lithium cells ~~to must~~ possess a ~~suitable~~ shutdown mechanism ~~and at the same time for it while~~ not to be able to melt down. This ~~object~~ is achieved by an electrical separator ~~according to the invention that comprises~~ having a shutdown layer which consists of particles which melt at a desired temperature, close the pores of the separator, and so stop ion flow. Since the separator also comprises a porous inorganic (ceramic) layer on a carrier, the cells cannot melt down as a result of a completely melted separator.